Please provide the following information, and submit to the NOAA DM Plan Repository.

Reference to Master DM Plan (if applicable)

As stated in Section IV, Requirement 1.3, DM Plans may be hierarchical. If this DM Plan inherits provisions from a higher-level DM Plan already submitted to the Repository, then this more-specific Plan only needs to provide information that differs from what was provided in the Master DM Plan.

URL of higher-level DM Plan (if any) as submitted to DM Plan Repository:

1. General Description of Data to be Managed

   1.1. Name of the Data, data collection Project, or data-producing Program:
   2012 Coastal California NAIP 4-Band 8 Bit Imagery

   1.2. Summary description of the data:
   This data set contains imagery from the National Agriculture

   Imagery Program (NAIP). NAIP acquires digital ortho imagery

   during the agricultural growing seasons in the continental U.S..

   A primary goal of the NAIP program is to enable availability of

   of ortho imagery within one year of acquisition. NAIP provides

   four main products: 1 meter ground sample distance (GSD) ortho

   imagery rectified to a horizontal accuracy of within +/- 5

   meters of reference digital ortho quarter quads (DOQQ's) from

   the National Digital Ortho Program (NDOP); 2 meter GSD

   ortho imagery rectified to within +/- 10 meters of reference

   DOQQs; 1 meter GSD ortho imagery rectified to within +/- 6

   meters to true ground; and, 2 meter GSD ortho imagery rectified

   to within +/- 10 meters to true ground. The tiling format of

   NAIP imagery is based on a 3.75' x 3.75' quarter quadrangle

   with a 300 meter buffer on all four sides. NAIP quarter quads

   are formatted to the UTM coordinate system using NAD83. NAIP

   imagery may contain as much as 10% cloud cover per tile.

   1.3. Is this a one-time data collection, or an ongoing series of measurements?
   One-time data collection

1.4. Actual or planned temporal coverage of the data:
2012-05-01

1.5. Actual or planned geographic coverage of the data:
W: -120.716, E: -120.237, N: 35.009, S: 34.423

1.6. Type(s) of data:
(e.g., digital numeric data, imagery, photographs, video, audio, database, tabular data, etc.)
Image (digital)

1.7. Data collection method(s):
(e.g., satellite, airplane, unmanned aerial system, radar, weather station, moored buoy, research vessel, autonomous underwater vehicle, animal tagging, manual surveys, enforcement activities, numerical model, etc.)

1.8. If data are from a NOAA Observing System of Record, indicate name of system:

1.8.1. If data are from another observing system, please specify:

2. Point of Contact for this Data Management Plan (author or maintainer)

2.1. Name:
NOAA Office for Coastal Management (NOAA/OCM)

2.2. Title:
Metadata Contact

2.3. Affiliation or facility:
NOAA Office for Coastal Management (NOAA/OCM)

2.4. E-mail address:
coastal.info@noaa.gov

2.5. Phone number:
(843) 740-1202

3. Responsible Party for Data Management
Program Managers, or their designee, shall be responsible for assuring the proper management of the data produced by their Program. Please indicate the responsible party below.

3.1. Name:

3.2. Title:
Data Steward

4. Resources

Programs must identify resources within their own budget for managing the data they produce.

4.1. Have resources for management of these data been identified?

4.2. Approximate percentage of the budget for these data devoted to data management (specify percentage or "unknown"):

5. Data Lineage and Quality
NOAA has issued Information Quality Guidelines for ensuring and maximizing the quality, objectivity, utility, and integrity of information which it disseminates.

5.1. Processing workflow of the data from collection or acquisition to making it publicly accessible
(describe or provide URL of description):
Process Steps:
- 2012-09-17 00:00:00 - Digital imagery was collected at a nominal GSD of 1.0m using seven Cessna 441 aircrafts flying at an average flight height of 9052m AGL. All aircraft flew with Leica Geosystem's ADS80/SH82 digital sensors with firmware 3.20 or newer. Each sensor collected 11 image bands. PanF27A,PanF02A and PanB14A panchromatic bands with a spectral range of 465-676nm. RedN00a and RedB16a with a spectral range of 604-664nm. GrnN00a and GrnB16a with a spectral range of 533-587nm. BluN00a and BluB16a with a spectral range of 420-492nm and Near-infrared bands NirN00a and NirB16a with a spectral range of 833-920nm. The CCD arrays have a pixel size of 6.5 microns in a 12000x1 format. Both the CCD's and the A/D convertors have a dynamic range of 12bits. The data is stored in 16bit format. The ADS is a push-broom sensor and the ground footprint of the imagery at NAIP scale is 12km wide by the length flightline. The maximum flightline length is limited to approximately 240km. The factory calibrations and IMU alignments for each sensor (Serial Numbers: 1321, 30011, 30012, 30014, 30017, 30022, 30034, and 30103) were tested and verified by in-situ test flights before the start of the project. The Leica ADS Flight Planning and Evaluation Software (FPES) is used to develop the flight acquisition plans. Flight acquisition sub blocks are designed first to define the GNSS base station logistics, and to break the project up into manageable acquisition units. The flight acquisition sub blocks are designed based on the specified acquisition season, native UTM zone of the DOQQs, flight line length limitations (to ensure sufficient performance of the IMU solution) as well as air traffic restrictions in the area. Once the sub blocks have been delineated they are brought into FPES for flight line design. The design parameters used in FPES will be 30% lateral overlap and 1.0m resolution. The flight

lines have been designed with a north/south   orientation. The design takes into account the   latitude of the state, which affects line spacing due   to convergence as well as the terrain. SRTM elevation data is used in the FPES design to ensure the 1m GSD   is achieved over all types of terrain.
- 2012-09-17 00:00:00 - The raw data was downloaded from the sensors after   each flight using Leica XPro software. The imagery was   then georeferenced using the 200Hz GPS/INS data   creating an exterior orientation for each scan line   (x/y/z/o/p/k). Technicians precisely measured tie   points in 3 bands/looks (Back/Nadir/Forward) for each   line using Leica Xpro software. The resulting point   data and exterior orientation data were used to   perform a full bundle adjustment with ORIMA software.   Blunders were removed, and additional tie points   measured in weak areas to ensure a robust solution.   Once the point data was clean and point coverage was   acceptable, photo-identifiable GPS-surveyed ground   control points were introduced into the block   adjustment. The bundle adjustment process produces   revised exterior orientation data for the sensor with   GPS/INS, datum, and sensor calibration errors modeled   and removed. Using the revised exterior orientation   from the bundle adjustment, orthorectified image   strips were created with Xpro software and the April   2012 USGS 10m NED DEM. The Xpro orthorectification   software applies an atmospheric-BRDF radiometric   correction to the imagery. This correction compensates   for atmospheric absorption, solar illumination angle   and bi-directional reflectance. The orthorectified   strips were then overlaid with each other and the   ground control to check accuracy. Once the accuracy of   the orthorectified image strips were validated the   strips were then imported into Inpho's OrthoVista 4.6   package which was used for the final radiometric   balance, mosaic, and DOQQ sheet creation of the final   DOQQ sheets, with a 300m buffer and a ground pixel   resolution of 1m.

5.1.1. If data at different stages of the workflow, or products derived from these data, are subject to a separate data management plan, provide reference to other plan:

5.2. Quality control procedures employed (describe or provide URL of description):

6. Data Documentation
The EDMC Data Documentation Procedural Directive requires that NOAA data be well documented, specifies the use of ISO 19115 and related standards for documentation of new data, and provides links to resources and tools for metadata creation and validation.

6.1. Does metadata comply with EDMC Data Documentation directive?
No

6.1.1. If metadata are non-existent or non-compliant, please explain:
Missing/invalid information:
- 1.7. Data collection method(s)
- 3.1. Responsible Party for Data Management
- 4.1. Have resources for management of these data been identified?
- 4.2. Approximate percentage of the budget for these data devoted to data management
- 5.2. Quality control procedures employed
- 7.1. Do these data comply with the Data Access directive?
- 7.1.1. If data are not available or has limitations, has a Waiver been filed?
- 7.1.2. If there are limitations to data access, describe how data are protected
- 7.3. Data access methods or services offered
- 7.4. Approximate delay between data collection and dissemination
- 8.1. Actual or planned long-term data archive location
- 8.3. Approximate delay between data collection and submission to an archive facility
- 8.4. How will the data be protected from accidental or malicious modification or deletion prior to receipt by the archive?

6.2. Name of organization or facility providing metadata hosting:
NMFS Office of Science and Technology

6.2.1. If service is needed for metadata hosting, please indicate:

6.3. URL of metadata folder or data catalog, if known:
https://www.fisheries.noaa.gov/inport/item/53105

6.4. Process for producing and maintaining metadata
(describe or provide URL of description):
Metadata produced and maintained in accordance with the NOAA Data Documentation Procedural Directive: https://nosc.noaa.gov/EDMC/DAARWG/docs/EDMC_PD-Data_Documentation_v1.pdf

7. Data Access
NAO 212-15 states that access to environmental data may only be restricted when distribution is explicitly limited by law, regulation, policy (such as those applicable to personally identifiable information or protected critical infrastructure information or proprietary trade information) or by security requirements. The EDMC Data Access Procedural Directive contains specific guidance, recommends the use of open-standard, interoperable, non-proprietary web services, provides information about resources and tools to enable data access, and includes a Waiver to be submitted to justify any approach other than full, unrestricted public access.

7.1. Do these data comply with the Data Access directive?

> **7.1.1. If the data are not to be made available to the public at all, or with limitations, has a Waiver (Appendix A of Data Access directive) been filed?**

> **7.1.2. If there are limitations to public data access, describe how data are protected from unauthorized access or disclosure:**

7.2. Name of organization of facility providing data access:
NOAA Office for Coastal Management (NOAA/OCM)

> **7.2.1. If data hosting service is needed, please indicate:**

> **7.2.2. URL of data access service, if known:**
> https://coast.noaa.gov/dataregistry/

7.3. Data access methods or services offered:

7.4. Approximate delay between data collection and dissemination:

> **7.4.1. If delay is longer than latency of automated processing, indicate under what authority data access is delayed:**

8. Data Preservation and Protection
The NOAA Procedure for Scientific Records Appraisal and Archive Approval describes how to identify, appraise and decide what scientific records are to be preserved in a NOAA archive.

8.1. Actual or planned long-term data archive location:
(Specify NCEI-MD, NCEI-CO, NCEI-NC, NCEI-MS, World Data Center (WDC) facility, Other, To Be Determined, Unable to Archive, or No Archiving Intended)

> **8.1.1. If World Data Center or Other, specify:**

> **8.1.2. If To Be Determined, Unable to Archive or No Archiving Intended, explain:**

8.2. Data storage facility prior to being sent to an archive facility (if any):
Office for Coastal Management - Charleston, SC

8.3. Approximate delay between data collection and submission to an archive facility:

8.4. How will the data be protected from accidental or malicious modification or deletion prior to receipt by the archive?
Discuss data back-up, disaster recovery/contingency planning, and off-site data storage relevant to the data collection

9. Additional Line Office or Staff Office Questions
Line and Staff Offices may extend this template by inserting additional questions in this section.